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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,479	03/08/2004	Gurtej S. Sandhu	M122-2521	2321
21567	7590	12/09/2005		
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			EXAMINER GEORGE, PATRICIA ANN	
			ART UNIT	PAPER NUMBER
			1765	
DATE MAILED: 12/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/796,479		SANDHU ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Patricia A. George		1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 50-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 50-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/28/05</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 57 and 51 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,573,199.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are both written toward the method of forming a capacitor.

Several differences are noted between applicants' claims and claim 1 of U.S. Patent No. 6,573,199. Applicants' claims do not require the step of providing the dielectric material in a reaction chamber. In addition, applicants' claims are silent about "forming a second capacitor electrode over the dielectric material" as defined in the last step of claim 1 in U.S. Patent No. 6,573,199.

It would have been obvious to one of ordinary skill in the art at the time of invention was made, to modify claim 51 of the present application to include a limitation directed at providing dielectric material in a reaction chamber because a housing/apparatus chamber would be required to accomplish the claimed processing steps. Nothing unexpected occurs by accomplishing the step in a conventional reaction chamber.

In addition, it would have been obvious to one of ordinary skill in the art at the time of invention was made, that applicants' process defined in claim 51 would encompass the step of "forming a second capacitor..." defined in the last step of claim 51 (U.S. Patent No. 6,573,199) because applicants' claim includes the same preceding step of contacting the dielectric material with an activated species that would result in the formation of a capacitor electrode.

### ***Double Patenting***

Claim 53 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,573,199 (see discussion above).

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are both written toward the method of forming a capacitor.

Applicant's claim 53 recites the limitations of "activated species comprises an active oxygen species" which would be an inherent feature when using of ozone as the precursor, as defined by claim 1 of U.S. Patent No. 6,573,199.

It would have been obvious to one of ordinary skill in the art at the time of invention was made, that applicants' claim 53 would encompass an activated species comprising an active oxygen species because the use of ozone as the precursor, as defined in claim 1 of U.S. Patent No. 6,573,199 would inherently provide an oxygen species.

### ***Double Patenting***

Claims 55 and 54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,573,199 (see discussion above) in view of ~~claim 3~~ of U.S. Patent No. 6,573,199.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are both written toward the method of forming a capacitor.

A difference is noted between applicants' claims and claim 3 of U.S. Patent No. 6,573,199. Applicants' claim 54 recites a broader range "above an upper surface" for the area of location focusing of the laser, where claim 3 of U.S. Patent No. 6,573,199, defines the area "2 mm to about 4mm above a surface."

It would have been obvious to one of ordinary skill in the art at the time of invention was made, to modify the range of the area , as in claim 3 of U.S. Patent No.

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6,573,199, to include a broader range, as in applicants' claim 54, because the applicant teaches a range which encompasses the range claimed in claim 3, of U.S. Patent No. 6,573,199.

### ***Double Patenting***

Claim 52 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,573,199 (see discussion above) in view of claim 5 of U.S. Patent No. 6,573,199 in further view of Ono of USPN 6,495,890.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are both written toward the method of forming a capacitor.

A difference is noted between applicants' claims and claim 5 of U.S. Patent No. 6,573,199. Applicants' claim 52 defines the dielectric material as comprising one of a broad group of high-k metal oxides, including tantalum pentoxide, the solely claimed high-k metal oxide in claim 5 of Patent No. 6,573,199.

Ono of USPN 6,495,890 teaches dielectric materials including high-k metal oxides, as in claim 52, and further teaches many types, such as: titanium oxide, tantalum pentoxide, silicon oxynitride, and hafnium oxide (col.3, l.23-30).

It would have been obvious to one of ordinary skill in the art at the time of invention was made, to include the use of high-k metal oxides, as Ono, when forming a

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capacitor, as U.S. Patent No. 6,573,199, because Ono teaches use of materials of higher dielectric constant will suppress defective short channel effects and parasitic capacitance, which allows high speed operation of the device, a known process improvement.

### ***Double Patenting***

Claim 53 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,573,199 (see discussion above) in view of Blanchet-Graciela of USPN 5,288,528.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are both written toward the method of forming a capacitor.

As to claim 53, Blanchet-Graciela of USPN 5,288,528 teaches use of a laser producing a light having a known and useful wavelength of 193 nm to 248 nm (col.4, l.30) to produce a material for semiconductor manufacturing.

It would have been obvious to one of ordinary skill in the art at the time of invention was made, to modify the invention of U.S. Patent No. 6,573,199, to include the wavelength cited, in applicants' claim 53, because it was known and useful.


**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia A. George whose telephone number is (571)272-5955. The examiner can normally be reached on weekdays between 7:00am and 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571)272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patricia A George  
Examiner  
Art Unit 1765

  
PAG  
09/05

  
NADINE G. NORTON  
SUPERVISORY PATENT EXAMINER